Author Index

Adam, N.R., Wall, G.W., Kimball, B.A., Idso, S.B. & Webber, A.N. Photosynthetic down-regulation over long-term CO_2 enrichment in leaves of sour orange (*Citrus aurantium*) trees, 341

Agati, G. *see* Tattini, M.

Albrechtová, J.T.P., Dueggelin, M., Duerrenberger, M. & Wagner, E. Changes in the geometry of the apical meristem and concomitant changes in cell wall properties during photoperiodic induction of flowering in *Chenopodium rubrum*, 263

Alexander, I.J. *see* Genney, D.R.

Aphalo, P.J. *see* Lehto, T.

Apostolakos, P. *see* Panteris, E.

Arvieu, J.-C. *see* Casarin, V.

Bailey, D.J. *see* Otten, W.

den Bakker, H.C., Zuccarello, G.C., Kuyper, T.H.W. & Noordeloos, M.E. Evolution and host specificity in the ectomycorrhizal genus *Leccinum*, 201

Barceló, A.R. *see* Pomar, F.

Barker, J.H.A. *see* Zha, H.G.

Becerril, J.M. *see* García-Plazaola, J.I.

Bernal, M.A. *see* Pomar, F.

Bidartondo, M. *see* Leake, J.R.

Bledsoe, C. *see* He, X.

Bonin, A. *see* Staudt, M.

Bonkowski, M. *see* Wurst, S.

Bornette, G. *see* Puijalon, S.

Bourdais, G. *see* Hummel, I.

Bracci, T. *see* Turrini, A.

Bragazza, L., Tahvanainen, T., Kutnar, L., Rydin, H., Limpens, J., Hájek, M., Grosvernier, P., Hájek, T., Hajkova, P., Hansen, I., Iacumin, P. & Gerdol, R. Nutritional constraints in ombrotrophic *Sphagnum* plants under increasing atmospheric nitrogen deposition in Europe, 609

Brandizzi, F., Irons, S.L. & Evans, D.E. The plant nuclear envelope: new prospects for a poorly understood structure, 227

Briganti, R. *see* Turrini, A.

Bücking, H. *see* Pfeffer, P.E.

Buscot, F. *see* Krüger, A.

Carfagna, S. *see* Vona, V.

Carlson, C.A. *see* Haynes, J.G.

Casarin, V., Plassard, C., Hinsinger, P. & Arvieu, J.-C. Quantification of ectomycorrhizal fungal effects on the bioavailability and mobilization of soil P in the rhizosphere of *Pinus pinaster*, 177

Cavalcanti, F.R., Oliveira, J.T.A., Martins-Miranda, A.S., Viégas, R.A. & Silveira, J.A.G. Superoxide dismutase, catalase and peroxidase activities do not confer protection against oxidative damage in salt-stressed cowpea leaves, 563

Choat, B. *see* Jansen, S.

Combier, J.-P. *see* Marmeisse, R.

Couée, I. *see* Hummel, I.

Critchley, C. *see* He, X.

Czymmek, K.J. *see* Haynes, J.G.

Dalen, L.S. *see* Nagy, N.E.

Darvill, B. *see* Hanley, M.E.

Dasgupta, T., Hossain, S.A., Meharg, A.A. & Price, A.H. An arsenate tolerance gene on chromosome 6 of rice, 45

Debaud, J.C. *see* Marmeisse, R.

Demchenko, K., Winzer, T., Stougaard, J., Parniske, M. & Pawlowski, K. Distinct roles of *Lotus japonicus SYMRK and SYM15* in root colonization and arbuscule formation, 381

Di Martino Rigano, V. *see* Vona, V.

Dickson, S. The *Arum–Paris* continuum of mycorrhizal symbioses, 187

Dickstein, R. *see* Haynes, J.G.

Dix, P.J. *see* Jansen, M.A.K.

Douds Jr, D.D. *see* Pfeffer, P.E.

Drøbak, B.K., Franklin-Tong, V.E. & Staiger, C.J. The role of the actin cytoskeleton in plant cell signaling, 13

Dueggelin, M. *see* Albrechtová, J.T.P.

Duerrenberger, M. *see* Albrechtová, J.T.P.

Dugassa-Gobena, D. *see* Wurst, S.

Durand, R. *see* Fontaine, J.

El Amrani, A. *see* Hummel, I.

Eldhuset, T.D. *see* Nagy, N.E.

Elfstrand, M. *see* Jansen, M.A.K.

El-Hajj, Z., Kavanagh, K., Rose, C. & Kanaan-Atallah, Z. Nitrogen and carbon dynamics of a foliar biotrophic fungal parasite in fertilized Douglas-fir, 139

Esposito, S. *see* Vona, V.

Evangelista, M. *see* Turrini, A.

Evans, D.E. *see* Brandizzi, F.

de Felipe, M.R. *see* González-Sama, A.

Fenner, M. *see* Hanley, M.E.

Fontaine, J., Grandmougin-Ferjani, A., Glorian, V. & Durand, R. 24-Methyl/methylene sterols increase in monoxenic roots after colonization by arbuscular mycorrhizal fungi, 159

Fonti, P. & García-González, I. Suitability of chestnut earlywood vessel chronologies for ecological studies, 77

Fossdal, C.G. *see* Nagy, N.E.

Fraissinet-Tachet, L. *see* Marmeisse, R.

Franklin-Tong, V.E. *see* Drøbak, B.K.

Frettinger, P. *see* Krüger, A.

Galardi, C. *see* Tattini, M.
Galatis, B. *see* Panteris, E.
García-González, I. *see* Fonti, P.
García-Plazaola, J.I., Becerril, J.M., Hernández, A., Niinemets, Ü. & Kollist, H. Acclimation of antioxidant pools to the light environment in a natural forest canopy, 87
Gay, G. *see* Marmeisse, R.
Genney, D.R., Alexander, I.J., Killham, K. & Meharg, A.A. Degradation of the polycyclic aromatic hydrocarbon (PAH) fluorene is retarded in a Scots pine ectomycorrhizosphere, 641
Gerdol, R. *see* Bragazza, L.
Gilligan, C.A. *see* Otten, W.
Giorgetti, L. *see* Turrini, A.
Giovannetti, M. *see* Turrini, A.
Glorian, V. *see* Fontaine, J.
González-Sama, A., Lucas, M.M., de Felipe, M.R. & Pueyo, J.J. An unusual infection mechanism and nodule morphogenesis in white lupin (*Lupinus albus*), 371
Gouesbet, G. *see* Hummel, I.
Granberg, G. *see* Gunnarsson, U.
Grandmougin-Ferjani, A. *see* Fontaine, J.
Griffin, K.L. *see* Xu, C.
Grosvernier, P. *see* Bragazza, L.
Guevara, R. & Romero, I. Spatial and temporal abundance of mycelial mats in the soil of a tropical rain forest in Mexico and their effects on the concentration of mineral nutrients in soils and fine roots, 361
Guidot, A. *see* Marmeisse, R.
Gunnarsson, U., Granberg, G. & Nilsson, M. Growth, production and interspecific competition in *Sphagnum*: effects of temperature, nitrogen and sulphur treatments on a boreal mire, 349

Hájek, M. *see* Bragazza, L.
Hájek, T. *see* Bragazza, L.
Hajkova, P. *see* Bragazza, L.
Hanley, M.E., Fenner, M., Whibley, H. & Darvill, B. Early plant growth: identifying the end point of the seedling phase, 61
Hansen, I. *see* Bragazza, L.
Haynes, J.G., Czymmek, K.J., Carlson, C.A., Veereshlingam, H., Dickstein, R. & Sherrier, D.J. Rapid analysis of legume root nodule development using confocal microscopy, 661
He, X., Critchley, C., Ng, H. & Bledsoe, C. Reciprocal N ($^{15}NH_4^+$ or $^{15}NO_3^-$) transfer between nonN_2-fixing *Eucalyptus maculata* and N_2-fixing *Casuarina cunninghamiana* linked by the ectomycorrhizal fungus *Pisolithus* sp., 629
Heggie, L. *see* Jansen, M.A.K.
Hernández, A. *see* García-Plazaola, J.I.
Herrmann, S. *see* Krüger, A.
Hinsinger, P. *see* Casarin, V.
Hodge, A. *see* Jones, D.L.
Hossain, S.A. *see* Dasgupta, T.
Hummel, I., Bourdais, G., Gouesbet, G., Couée, I., Malmberg, R.L. & El Amrani, A. Differential gene expression of *ARGININE DECARBOXYLASE ADC1* and *ADC2* in *Arabidopsis thaliana*: characterization of transcriptional regulation during seed germination and seedling development, 519
Hunt, L., Lerner, F. & Ziegler, M. NAD – new roles in signalling and gene regulation in plants, 31
Hutchings, M.J. *see* Podar, D.
Hyman, L.J. *see* Newton, A.C.

Iacumin, P. *see* Bragazza, L.
Idso, S.B. *see* Adam, N.R.
Iqbal, M. *see* Kojs, P.
Irons, S.L. *see* Brandizzi, F.
Iversen, T.-H. *see* Mehli, L.

Jackson, R.B. *see* McElrone, A.J.
Jansen, M.A.K., Elfstrand, M., Heggie, L., Sitbon, F., Dix, P.J. & Thorneley, R.N.F. Over-expression of phenol-oxidising peroxidases alters the UV-susceptibility of transgenic *Nicotiana tabacum*, 585
Jansen, S., Choat, B., Vinckier, S., Lens, F., Schols, P. & Smets, E. Intervascular pit membranes with a torus in the wood of *Ulmus* (Ulmaceae) and related genera, 51
Jiang, R.F. *see* Zha, H.G.
Joffre, R. *see* Staudt, M.
Jones, D.L. *see* Nagy, N.E.
Jones, D.L., Hodge, A. & Kuzyakov, Y. Plant and mycorrhizal regulation of rhizodeposition, 459
Julkunen-Tiitto, R. *see* Lehto, T.
Jura, J. *see* Kojs, P.

Kanaan-Atallah, Z. *see* El-Hajj, Z.
Kavanagh, K. *see* El-Hajj, Z.
Killham, K. *see* Genney, D.R.
Kimball, B.A. *see* Adam, N.R.
Kjellsen, T.D. *see* Mehli, L.
Koelewijn, H.P. Rapid change in relative growth rate between the vegetative and reproductive stage of the life cycle in *Plantago coronopus*, 67
Kojs, P., Rusin, A., Iqbal, M., Włoch, W. & Jura, J. Readjustments of cambial initials in *Wisteria floribunda* (Willd.) DC. for development of storeyed structure, 287
Kollist, H. *see* García-Plazaola, J.I.
Krüger, A., Peškan-Berghöfer, T., Frettinger, P., Herrmann, S., Buscot, F. & Oelmüller, R. Identification of premycorrhiza-related plant genes in the association between *Quercus robur* and *Piloderma croceum*, 149
Kutnar, L. *see* Bragazza, L.
Kuyper, T.H.W. *see* den Bakker, H.C.
Kuzyakov, Y. *see* Jones, D.L.

Lambilliotte, R. *see* Marmeisse, R.
Landais, D. *see* Staudt, M.
Langel, R. *see* Wurst, S.

Lauri, P.-É. & Trottier, C. Patterns of size and fate relationships of contiguous organs in the apple (*Malus domestica*) crown, 533
Lavola, A. *see* Lehto, T.
Leake, J.R., McKendrick, S.L., Bidartondo, M. & Read, D.J. Symbiotic germination and development of the myco-heterotroph *Monotropa hypopitys* in nature and its requirement for locally distributed *Tricholoma* spp., 405
Lehto, T., Räisänen, M., Lavola, A., Julkunen-Tiitto, R. & Aphalo, P.J. Boron mobility in deciduous forest trees in relation to their polyols, 333
Lens, F. *see* Jansen, S.
Lerner, F. *see* Hunt, L.
Limpens, J. *see* Bragazza, L.
Lin, G. *see* Xu, C.
Lobosco, O. *see* Vona, V.
Lu, B.-R. *see* Rong, J.
Lucas, M.M. *see* González-Sama, A.
Lumaret, R. *see* Staudt, M.

Malmberg, R.L. *see* Hummel, I.
Marmeisse, R., Guidot, A., Gay, G., Lambilliotte, R., Sentenac, H., Combier, J.-P., Melayah, D., Fraissinet-Tachet, L. & Debaud, J.C. *Hebeloma cylindrosporum* – a model species to study ectomycorrhizal symbiosis from gene to ecosystem, 481
Martínez-Vilalta, J. *see* McElrone, A.J.
Martins-Miranda, A.S. *see* Cavalcanti, F.R.
Massai, R. *see* Tattini, M.
McCormick, M.K., Whigham, D.F. & O'Neill, J. Mycorrhizal diversity in photosynthetic terrestrial orchids, 425
McElrone, A.J., Pockman, W.T., Martínez-Vilalta, J. & Jackson, R.B. Variation in xylem structure and function in stems and roots of trees to 20 m depth, 507
McGrath, S.P. *see* Zha, H.G.
McKendrick, S.L. *see* Leake, J.R.
Meharg, A.A. *see* Dasgupta, T.
Meharg, A.A. *see* Genney, D.R.
Mehli, L., Schaart, J.G., Kjellsen, T.D., Tran, D.H., Salentijn, E.M.J., Schouten, H.J. & Iversen, T.-H. A gene encoding a polygalacturonase-inhibiting protein (PGIP) shows developmental regulation and pathogen-induced expression in strawberry, 99
Melayah, D. *see* Marmeisse, R.
Merino, F. *see* Pomar, F.
Mir, C. *see* Staudt, M.

Nagy, N.E., Dalen, L.S., Jones, D.L., Swensen, B., Fossdal, C.G. & Eldhuset, T.D. Cytological and enzymatic responses to aluminium stress in root tips of Norway spruce seedlings, 595
Neave, P. *see* Newton, A.C.
Newton, A.C., Toth, I.K., Neave, P. & Hyman, L.J. Bacterial inoculum from a previous crop affects fungal disease development on subsequent nonhost crops, 133
Ng, H. *see* He, X.
Niinemets, Ü. *see* García-Plazaola, J.I.
Nilsson, M. *see* Gunnarsson, U.
Noordeloos, M.E. *see* den Bakker, H.C.
Novo, M. *see* Pomar, F.
Nuti, M.P. *see* Turrini, A.

O'Neill, J. *see* McCormick, M.K.
Oelmüller, R. *see* Krüger, A.
Oliveira, J.T.A. *see* Cavalcanti, F.R.
Otten, W., Bailey, D.J. & Gilligan, C.A. Empirical evidence of spatial thresholds to control invasion of fungal parasites and saprotrophs, 125

Panteris, E., Apostolakos, P., Quader, H. & Galatis, B. A cortical cytoplasmic ring predicts the division plane in vacuolated cells of *Coleus*: the role of actomyosin and microtubules in the establishment and function of the division site, 271
Parniske, M. *see* Demchenko, K.
Pawlowski, K. *see* Demchenko, K.
Peškan-Berghöfer, T. *see* Krüger, A.
Pfeffer, P.E., Douds Jr, D.D., Bücking, H., Schwartz, D.P. & Shachar-Hill, Y. The fungus does not transfer carbon to or between roots in an arbuscular mycorrhizal symbiosis, 617
Pinelli, P. *see* Tattini, M.
Pitto, L. *see* Turrini, A.
Plassard, C. *see* Casarin, V.
Pockman, W.T. *see* McElrone, A.J.
Podar, D., Ramsey, M.H. & Hutchings, M.J. Effect of cadmium, zinc and substrate heterogeneity on yield, shoot metal concentration and metal uptake by *Brassica juncea*: implications for human health risk assessment and phytoremediation, 313
Pomar, F., Novo, M., Bernal, M.A., Merino, F. & Barceló, A.R. Changes in stem lignins (monomer composition and crosslinking) and peroxidase are related with the maintenance of leaf photosynthetic integrity during *Verticillium* wilt in *Capsicum annuum*, 111
Price, A.H. *see* Dasgupta, T.
Pueyo, J.J. *see* González-Sama, A.
Puijalon, S. & Bornette, G. Morphological variation of two taxonomically distant plant species along a natural flow velocity gradient, 651

Quader, H. *see* Panteris, E.

Räisänen, M. *see* Lehto, T.
Rambal, S. *see* Staudt, M.
Ramsey, M.H. *see* Podar, D.
Read, D.J. *see* Leake, J.R.
Remorini, D. *see* Tattini, M.
Rigano, C. *see* Vona, V.
Romero, I. *see* Guevara, R.
Rong, J., Xia, H., Zhu, Y., Wang, Y. & Lu, B.-R. Asymmetric gene flow between traditional and hybrid rice varieties (*Oryza sativa*) indicated by nuclear simple sequence repeats and implications for germplasm conservation, 439

Rose, C. *see* El-Hajj, Z.
Ruffini Castiglione, M. *see* Turrini, A.
Rusin, A. *see* Kojs, P.
Rydin, H. *see* Bragazza, L.

Salentijn, E.M.J. *see* Mehli, L.
Sambrotto, R.N. *see* Xu, C.
Sbrana, C. *see* Turrini, A.
Schaart, J.G. *see* Mehli, L.
Schat, H. *see* Zha, H.G.
Scheu, S. *see* Wurst, S.
Schols, P. *see* Jansen, S.
Schouten, H.J. *see* Mehli, L.
Schwartz, D.P. *see* Pfeffer, P.E.
Sentenac, H. *see* Marmeisse, R.
Shachar-Hill, Y. *see* Pfeffer, P.E.
Sherrier, D.J. *see* Haynes, J.G.
Silveira, J.A.G. *see* Cavalcanti, F.R.
Sitbon, F. *see* Jansen, M.A.K.
Smets, E. *see* Jansen, S.
Smith, A.M. *see* Zeeman, S.C.
Smith, S.M. *see* Zeeman, S.C.
Staiger, C.J. *see* Drøbak, B.K.
Staudt, M., Mir, C., Joffre, R., Rambal, S., Bonin, A., Landais, D. & Lumaret, R. Isoprenoid emissions of *Quercus* spp. (*Q. suber* and *Q. ilex*) in mixed stands contrasting in interspecific genetic introgression, 573
Stougaard, J. *see* Demchenko, K.
Swensen, B. *see* Nagy, N.E.

Tahvanainen, T. *see* Bragazza, L.
Tattini, M., Galardi, C., Pinelli, P., Massai, R., Remorini, D. & Agati, G. Differential accumulation of flavonoids and hydroxycinnamates in leaves of *Ligustrum vulgare* under excess light and drought stress, 547
Thorneley, R.N.F. *see* Jansen, M.A.K.
Toth, I.K. *see* Newton, A.C.
Tran, D.H. *see* Mehli, L.
Trottier, C. *see* Lauri, P.-É.
Turrini, A., Sbrana, C., Pitto, L., Ruffini Castiglione, M., Giorgetti, L., Briganti, R., Bracci, T., Evangelista, M., Nuti, M.P. & Giovannetti, M. The antifungal Dm-AMP1 protein from *Dahlia merckii* expressed in *Solanum melongena* is released in root exudates and differentially affects pathogenic fungi and mycorrhizal symbiosis, 393

Veereshlingam, H. *see* Haynes, J.G.
Viégas, R.A. *see* Cavalcanti, F.R.
Vinckier, S. *see* Jansen, S.
Vona, V., Di Martino Rigano, V., Lobosco, O., Carfagna, S., Esposito, S. & Rigano, C. Temperature responses of growth, photosynthesis, respiration and NADH: nitrate reductase in cryophilic and mesophilic algae, 325
Vooijs, R. *see* Zha, H.G.

Wagner, E. *see* Albrechtová, J.T.P.
Wall, G.W. *see* Adam, N.R.
Wang, Y. *see* Rong, J.
Webber, A.N. *see* Adam, N.R.
Whibley, H. *see* Hanley, M.E.
Whigham, D.F. *see* McCormick, M.K.
Winzer, T. *see* Demchenko, K.
Włoch, W. *see* Kojs, P.
Wurst, S., Dugassa-Gobena, D., Langel, R., Bonkowski, M. & Scheu, S. Combined effects of earthworms and vesicular–arbuscular mycorrhizas on plant and aphid performance, 169

Xia, H. *see* Rong, J.
Xu, C., Lin, G., Griffin, K.L. & Sambrotto, R.N. Leaf respiratory CO_2 is ^{13}C-enriched relative to leaf organic components in five species of C_3 plants, 499

Zeeman, S.C., Smith, S.M. & Smith, A.M. The breakdown of starch in leaves, 247
Zha, H.G., Jiang, R.F., Zhao, F.J., Vooijs, R., Schat, H., Barker, J.H.A. & McGrath, S.P. Co-segregation analysis of cadmium and zinc accumulation in *Thlaspi caerulescens* interecotypic crosses, 299
Zhao, F.J. *see* Zha, H.G.
Zhu, Y. *see* Rong, J.
Ziegler, M. *see* Hunt, L.
Zuccarello, G.C. *see* den Bakker, H.C.

Key word Index

$^{15}NH_4^+$, 629
$^{15}NO_3^-$, 629
3-glucan, 595

α-glucan phosphorylase, 247
acclimation, 341
achlorophyllous/nonphotosynthetic plants, 221
acidification, 349
actomyosin, 271
adaptation, 451
algal growth, 325
algal photosynthesis, 325
algal respiration, 325
allometry, 533
aluminium (Al), 595
Ampelomyces, 455
amylase, 247
antioxidants, 87
aphids, 169
apical meristem, 263
apigenin glycosides, 547
apple (*Malus domestica*), 533
aquatic macrophytes, 451
Arabidopsis, 11, 247, 519
arbuscular mycorrhiza, 381
arbuscular mycorrhizal (AM) colonization, 187
arbuscular mycorrhizal fungi, 393
arbuscular mycorrhizal symbiosis, 617
arbuscule, 381
arginine decarboxylase, 519
Arsenic tolerance, 45
Arum, 187
ascorbate, 87
auxin, 585

β-1, 595
bacteroid, 661
barley (*Hordeum vulgare*), 133
basal emission rate, 573
below–above-ground interactions, 169
bioavailability, 177
biological control, 125, 455
biological control agents, 457
Blumeria graminis, 133
boron (B), 333
Botrytis cinerea, 99, 393
Bradyrhizobium, 371
Brassica juncea, 313

C_3 plants, 499
cadmium (Cd), 299
cadmium (Cd), 313
cADPR, 31
calcium carbonate, 177
callose, 595
canopy light gradient, 87
Capsicum annuum, 111
carbon cycle, 225
carbon dioxide, 225
carbon flow, 459
carbon isotope, 499
carbon translocation, 617
Castanea sativa (European chestnut), 77
Casuarina cunninghamiana, 629
caves, 507
cavitation, 449
cell biology, 9
cell division, 271
Cell theory, 9
cell walls, 263
Cephalanthera austinae, 425
Chajul, 361
chemotaxonomy, 573
chemotypes, 573
Chenopodium rubrum, 263
chilling, 519
chitinase, 595
chlorophyll a fluorescence, 585
Cichorium intybus (chicory), 159
climate change, 225
CLSM (confocal laser scanning microscopy), 661
CO_2 enrichment, 341
cohesion-tension theory, 449, 452, 453
Coleus, 271
common ectomycorrhizal networks (CMNs), 629
competition, 349
concentration factor, 313
confocal microscopy, 227
conservation, 439
cotyledon, 61
critical load, 609
crop yield, 225
cryophilic algae, 325
cryo-scanning electron microscopy (cryo-SEM), 263

dark respiration, 499
Daucus carota (carrot), 159, 187
deep roots, 507
defensin, 393
degradation, 641
dendrochronology, 77
development, 519
division site, 271
down-regulation, 341
drought stress, 547

earlywood, 77
earthworms, 169
echinacoside, 547
ecological stoichiometry, 609
ecophysiology, 4
ecosystem, 225
ectomycorrhiza, 149
ectomycorrhizal fungus, 641
ectomycorrhizal symbiosis, 481
ectomycorrhizas, 177
endomembranes, 227
endophyte, 139
endoplasmic reticulum, 9
environmental hazards, 455
environmental heterogeneity, 313
epidemics, 7
epidemiology, 125
epigeal, 61
Erwinia carotovora ssp. *atroseptica*, 133
EST databases, 11
Eucalyptus maculata, 629
evergreen oaks, 573
evolution, 451
excess light, 547

FACE, 225
fertilization, 139
flow velocity gradient, 651
flower induction, 263
flowering pattern, 533
fluorescence microimaging, 547
fluorescent proteins, 227
forest biotechnology, 11
forum, 453
fractionation, 499

Frankia, 629
FRAP, 227
fruit and shoot size, 533
fungal biocontrol agents, 455
fungal specificity, 405
fungal spread, 7
fungi, 221, 457

Gadgil-effect, 641
GCMS, 617
gene flow, 439
generalist, 201
genetic analysis, 299
genetic introgression, 573
genomic biology, 11
global change, 609
global climate change, 341
global warming, 349
Glomus, 159
Glomus intraradices, 381, 617
glucan, 247
glucanotransferase, 247
glutathione, 87
glyceraldehyde 3-phosphate dehydrogenase (*Gapdh*), 201
golgi, 9
Goodyera pubescens, 425
green fluorescent protein, 9
growth analysis, 67

Hebeloma cylindrosporum, 177, 481
helper bacteria, 133
host specificity, 201
human health risk assessment, 313
hybrid, 439
hydraulic conductivity, 507
hyperaccumulation, 299
hypogeal, 61

in situ germination, 405
infection, 371
internal transcribed spacer (ITS), 201
intrusive growth, 287
invasion thresholds, 125
iridoid glycosides, 169
isoprene, 573

Keeling plot, 499

leaf photosynthetic integrity, 111
Leccinum, 201
life forms, 361
light acclimation, 87
lignins, 111
Linum usitatissimum (flax), 187
Liparis lilifolia, 425
long-distance transport, 449, 452, 453
Lotus japonicus, 381
Lupinus albus, 371
luteolin glycosides, 547

mechanical stress, 651
Medicago truncatula, 661
membrane transport, 459
Mesorhizobium loti, 371
microscopy, 9
microtubules, 271
mineral nutrient uptake, 361
mineral nutrition, 333
modular development, 67
monoterpenes, 573
Monotropaceae, 405
monoxenic cultures, 159
morphological plasticity, 651
morphology, 451
mutants (*nip*, *sli*, *sli*), 661
Myco-heterotrophs, 221
myco-heterotrophy, 405
mycorrhiza differentiation, 481
mycorrhizal diversity, 425
mycorrhizas, 221, 459

NAADP, 31
NAD, 31
NADP, 31
needle age, 139
Nicotiana tabacum (tobacco), 585
nicotinamide, 31
nitrate reductase, 325
nitrogen (N), 609
nitrogen assimilation, 481
nitrogen deposition, 349
nitrogen fixation, 661
nitrogen uptake, 169
nitrogen-fixing symbiosis, 371
NMR, 617
nodule, 371, 661
nonphotochemical quenching, 111
nontarget effects, 455, 457
Norway spruce (*Picea abies*), 595
nuclear envelope, 227
nutrient cycling, 459
nutrient limitation, 609

Ocimum basilicum (sweet basil), 187
Olsen P, 177
onset of flowering, 67
Orchidaceae, 425
orchids, 221
organogenesis, 263
Oryza, 45
Oryza glaberrima, 45
Oryza sativa, 439
oxidative stress, 563

PAH, 641
parent branch, 533
Paris, 187
PARP, 31
pathogenic fungi, 139
pathogenicity, 133
pea (*Pisum sativum*), 61
peatlands, 349
peer review, 453
percolation, 125
percolation model, 7
peroxidase, 111, 585, 595
Petroselium crispum (parsley), 187
Phaeocryptopus gaeumannii, 139
phenotypic plasticity, 451
phenotypic variation, 651
phosphate, 45
phosphorus (P), 609
photoperiodism, 263
photosynthesis, 341
phragmosome, 271
phytoremediation, 313
Piloderma croceum, 149
Pinus pinaster, 177
Pinus sp., 481
Pinus sylvestris, 641
Pisolithus sp., 629
pit membrane, 51
pit structure, 51
plant, 227
plant defence, 99
plant disease, 457
plant growth, 563
plant metal uptake, 313
Plantago coronopus, 67
plastid, 9
polarization microscopy, 263
polygalacturonase-inhibiting protein, 99
polyols, 333
population dynamics, 481
Populus, 11
Populus tremula, 87
potassium (K), 609
premycorrhiza related plant genes, 149
production, 349
proteomics, 227
Pseudotsuga menziesii, 139

QTL, 45
quantum yield, 111
quercetin 3-O-rutinoside, 547
Quercus robur (common oak), 149

real-time RT-PCR, 99
regeneration ecology, 61
regulation, 457
relative growth rate (RGR), 61, 67
reproductive shoot, 533
resource allocation, 67
retranslocation, 333
retrospective environmental reconstruction, 4
return-bloom, 533
rhizobia, 661
Rhizoctonia solani, 125
Rhizopogon roseolus, 177
rhizosphere, 459
Rhynchosporium secalis, 133
Ri T-DNA carrot (*Daucus carota*) roots, 617
Ri T-DNA-transformed roots, 159
ribosomal DNA, 449
rice variety, 439
ring-porous, 77
root exudation, 459
root meristem, 381
ROS, 31
Rubisco, 341

safety regulations, 455
salinity, 563
saprophytic growth, 381
saprotrophic fungi, 361
seed size, 67
seedling development, 405
Septoria tritici, 133
signal transduction, 381
signalling, 459
Sir2, 31
size-dependent reproduction, 67
soil P, 177
soil-borne disease, 7
Solanum melongena, 393
sour orange trees (*Citrus aurantium*), 341
southern Mexico, 361
spatial structure, 7
specialist, 201
speciation, 201
Sphagnum, 349, 609
SSR (simple sequence repeat), 439
stable isotope, 139
stable isotopes, 333
starch, 247
sterol, 159
storeyed cambium, 287
Straighthead, 45
strawberry, 99
stress, 519, 585
structural development, 187
Submerged plant, 651
sunflower (*Helianthus annuus*), 61
superoxide radical, 547
suppression subtractive hybridization, 149
SYTO, 661

Tansley reviews, 452, 453
TEM, 9
temperature dependence, 325
Thlaspi caerulescens, 299
Tilia cordata, 87
Tipularia discolor, 425
tocopherol, 87
tolerance, 299
torus, 51
tracheary elements, 51
transcriptional regulation, 519
transformed plants, 393
transgene escape, 439
tree rings, 77
trees, 333
Trichoderma, 457
Tricholoma, 405
two-way N transfer, 629

Ulmaceae, 51
Ulmus (elm), 51
unequal periclinal division, 287
UV-radiation, 585

vegetative shoot, 533
Verticillium albo-atrum, 393
Verticillium dahliae, 111
vesicular–arbuscular mycorrhiza (VAM), 169
vessel size, 4, 77
Vigna unguiculata (L.) Walp., 563
VOC (volatile organic compound) emissions, 573
vulnerability to cavitation, 507

water deficit , 563
water dikinase, 247
water transport, 452
water-conducting tissue, 4
wheat (*Triticum aestivum*), 133
white lupin, 371
whole-tree hydraulic architecture, 507
Wisteria floribunda, 287
wood anatomy, 51

xylem, 449, 452, 453
xylem anatomy, 507
xylem conduits, 507

zinc (Zn), 299, 313